

Preliminary Amendment
Serial.No.: filed concurrently
August 27, 2001

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capturing property for harmful heavy metal ions, can be easily discarded and incinerated, moreover, can be produced at low cost in a simple and safe manner. It is a second object of the invention to provide a process for easily, safely, and efficiently producing the metal chelate forming fiber.

Please substitute the paragraph beginning on page 4, line 1 and ending on page 4, line 9 as follows:

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A third object of the present invention is to provide a method of easily and efficiently capturing metal ions contained in trace amounts, for example, in an aqueous or oily liquid or in a gas such as an exhaust gas and the like by the use of the metal chelate forming fiber. Additionally, a fourth object of the present invention is to provide a metal chelate fiber which is making use of catalytic activities or antimicrobial activities of a variety of metals by allowing the metals to be bonded by chelation to a surface of the metal chelate forming fiber.

Please substitute the paragraph beginning on page 4, line 13 and ending on page 4, line 21 as follows:

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The present invention has been accomplished to achieve the above objects and provides a metal chelate forming fiber. The subject matter of the present invention is that at least one metal chelate forming compound selected from the group consisting of aminodicarboxylic acids, thiocarboxylic acid and phosphoric acid which are reactive to epoxy group is bonded to a fiber molecule of a natural fiber or regenerated fiber through a graft reaction product of a crosslinkable compound which has a reactive double bond and a glycidyl group in its molecule.

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Please substitute the paragraph beginning on page 8, line 9 and ending on page 8, line 20 as follows:

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Additionally, the fiber molecule allows the crosslinkable compound to easily graft onto the fiber molecule by reacting the crosslinkable compound having a double bond and a glycidyl group in its molecule in the presence of a redox catalyst. After the introduction of the crosslinkable compound, the fiber molecule is subjected to reacting with a metal chelate forming compound which is reactive with a glycidyl group to thereby easily impart chelating capability to the fiber molecule. In this procedure, iminodiacetic acid, ethylenediaminediacetic acid,

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ethylenediaminetriacetic acid, thioglycolic acid, thiomalic acid
or phosphoric acid are used as the preferable chelate forming
compound.

Please substitute the paragraph beginning on page 8, line 21
and ending on page 9, line 9 as follows:

Consequently, the natural or regenerated fiber has a
multitude of metal chelate forming functional groups introduced onto
a surface of its fiber molecule. Nitrogen atoms, sulfur atoms,
carboxyl groups or other moieties present in the chelate-forming
functional groups satisfactorily exhibit the selective adsorption of
copper, zinc, nickel, cobalt and other heavy metal ions.
Additionally, since the chelate-forming functional groups are
attached to the surface while being grafted to the fiber molecule,
and the metal chelate-forming fiber satisfactorily exhibit the
selective adsorption of metal ions by action of the chelate-forming
functional groups present in the fiber molecule. Furthermore, as
the metal chelate-forming fiber comprises a natural or regenerated
fiber as a base fiber, the biodegradation is expected when the fiber
is discarded, and a harmful gas is hardly generated when it is
incinerated.